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State of Montana addendum to the Western Area Power Administration's draft EIS for the proposed Conrad to Shelby 230-Kv

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# MONTANA ADDENDUM

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## To Western Area Power Administration's Draft EIS

## For Conrad To Shelby 230KV Transmission Project

JANUARY 1987

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State of Montana
Addendum to
Western Area Power Administration's
Draft EIS for the Proposed
Conrad to Shelby 230-kV Transmission Project

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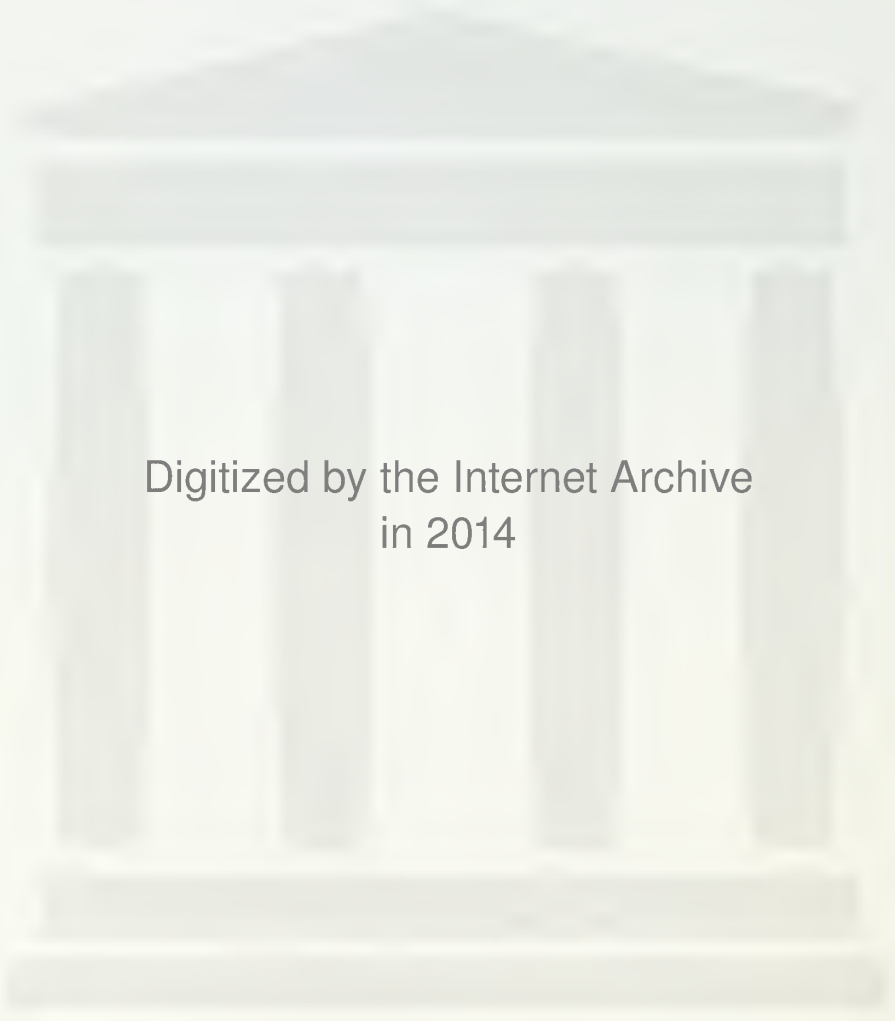

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In November 1985, Western Area Power Administration (Western) and the State of Montana (through the Department of Natural Resources and Conservation (DNRC)) began work to evaluate a proposed 230-kV transmission project proposed by Western between Conrad and Shelby, Montana. Because this project is covered by Montana's Major Facility Siting Act and is being sponsored by a federal entity, Western and DNRC entered into an agreement that would allow state agencies to determine whether the project would meet the substantive standards established by the Siting Act. In its role under the Siting Act, as the state's lead agency, DNRC participated with Western in evaluating the proposed project. This evaluation included the need for the proposed project, possible alternatives to the project, possible impacts of the project, and ways of avoiding or remedying them. DNRC attended all meetings Western held with local officials and the public in the project area.

In November 1986, Western released its draft environmental impact statement (EIS) for the Conrad to Shelby Transmission Project (DOE/EIS-0124-D). DNRC attended hearings Western held on the draft EIS the evenings of December 10 and 11 in Conrad and Shelby. Only one formal comment, a statement in support of the project from a rural electric cooperative representative, was received at these hearings. Given the state involvement in the development of this EIS, and the fact that the EIS closely parallels action required by state agencies under the Siting Act and the Montana Environmental Policy Act (MEPA), DNRC has decided to adopt the federal draft EIS as the state draft EIS.

Under provisions of MEPA and administrative rules implementing the law, DNRC adopts Western's draft EIS on the Conrad to Shelby project in its entirety, with the addition of comments by state agencies. Although Western's draft EIS is sufficient to fulfill most requirements of state law, specific provisions of the Siting Act and MEPA require some information not contained in the federal document.

For these reasons, an addendum to Western's draft EIS is necessary to meet DNRC's responsibilities under MEPA and to fully provide information necessary to enable the Board of Natural Resources and Conservation (Board) to determine whether Western's project complies with the substantive requirements of the Siting Act.

This addendum has several purposes. It provides a summary of the issues and impacts contained in the Western draft EIS. It contains additional information required by state law, along with state agency comments and information requests. Western is expected to include the additional information requested in its final EIS. In the event that sufficient information is not provided in the final EIS, DNRC will publish its own document containing the information. The final item contained in this addendum is information on future actions to be taken by state agencies and the Board when evaluating this project.

This addendum is intended to be used with and is considered a part of Western's draft EIS on the Conrad-to-Shelby project. Copies of this addendum are being sent to those persons and agencies in Montana who received a copy of the federal draft EIS. Copies of this addendum also will be sent to the state library system and libraries in Toole and Pondera counties. Copies of Western's draft EIS and this addendum are also available for public inspection at DNRC. For information regarding inspection of these documents, contact the Energy Division, 1520 East Sixth Avenue, Helena, MT 59620-2301, or call (406) 444-6812.

PART I

SUMMARY OF FEDERAL DRAFT IMPACT STATEMENT

## INTRODUCTION

Western's environmental impact statement (EIS) was prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for the implementation of the procedural requirements of NEPA, the Department of Energy guidelines for compliance with NEPA, and other applicable legislation.

## PROPOSED ACTION

Western proposes to construct, operate, and maintain a single-circuit overhead 230-kV transmission line between Conrad and Shelby. The proposed project would include construction of about 29.8 miles of new 230-kV transmission line on single-pole steel or concrete structures between Western's newly completed Conrad 230/115-kV substation and a new Shelby 230/115-kV substation that would be built as part of the project. The locations of the preferred and alternative routes and the Shelby substation siting area are shown in Figure 1.

The proposed Shelby substation would be built on approximately 5 acres of land about 2.5 miles south of the existing Shelby substation. About 4.9 miles of the existing Havre-Shelby 115-kV transmission line would be removed where it passes through or near the Toole County Fairgrounds and several residences and businesses. It would be replaced by about 3.5 miles of new transmission line constructed to 230-kV standards. The existing and new Shelby substations would be connected by about 2.6 miles of new single-pole 115-kV transmission line. Glacier Electric Cooperative probably would reroute its Cut Bank-Shelby 115-kV transmission line from the existing Shelby substation to the new substation. Environmental impacts associated with this reroute would be studied and mitigated by Glacier Electric Cooperative. The single-pole structures would be 65 feet to 125 feet tall, and span lengths would be from 700 feet to 1,200

feet. The conductor would be dull surfaced to reduce light reflection. Use of single-pole structures, along with routing of the lines along field boundaries, would help avoid disturbance to agricultural land in the rural project area.

Construction of the proposed project is scheduled to begin in October, 1987 and the system is expected to be operating in December, 1988. The anticipated useful life of the project is 100 years.

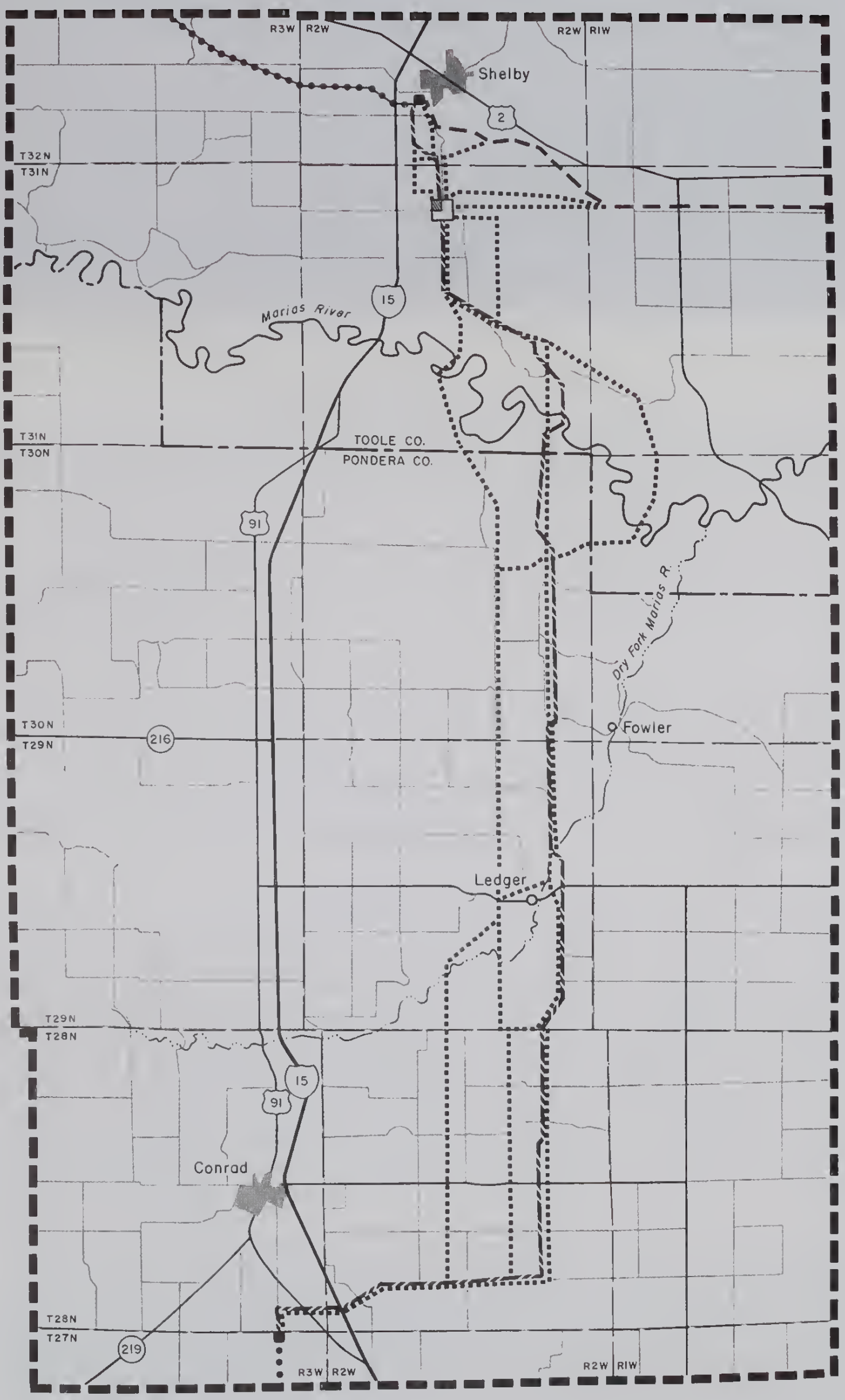
## NEED AND PURPOSE

The electrical needs of the Cut Bank-Shelby area in north-central Montana are served by a 115-kV transmission loop beginning at the Rainbow substation near Great Falls and running northwest to Conrad and Cut Bank, and then east to Havre. A segment of 161-kV transmission line completes the loop to Rainbow substation. A recently constructed 230-kV line between Great Falls and Conrad provides voltage support to the 115-kV loop. However, power simulation studies and operational experience have demonstrated an urgent need for more improvements to the 115-kV transmission system. Under present conditions, outages on the system result in low voltages, overloaded transmission facilities, and loss of service to some customers. These conditions will worsen as energy demand increases unless the system is upgraded. Even without outages, the present system would be insufficient to serve the expected needs of consumers in the 1990s.

The proposed action would: 1) provide improved service to consumers; 2) improve system reliability; 3) contribute to energy conservation; and 4) provide flexibility for future system expansion.

### The Proposed Action and Alternatives

Western looked at a variety of possible methods for meeting present and future electrical needs, including no action, energy conservation, use of other generation sources, other transmission systems, other technologies, and routing variations of the proposed project.




# Figure 1. Conrad to Shelby preferred and alternate routes

feet. The conductor would be dull-surfaced to reduce light reflection

In this EIS, the no-action alternative has been interpreted to mean that Western would build no new transmission or generation facilities between Conrad and Shelby. In order to deal with adverse effects resulting from no-action, the local utilities could be forced to undertake selective load curtailments, rolling black-outs, planned voltage reductions, and to refuse service to new customers. These measures are considered unacceptable in terms of normal utility practices.

With "no-action" considered unacceptable, Western then considered other options. Analysis indicated that there is not enough energy conservation potential to eliminate the need for the line. New generation facilities would not solve the problem because the power supply is already adequate. It is only the transmission system that is inadequate.

A direct current (DC) transmission system was considered as a possible alternative to an alternating current (AC) system, but a DC system with the power transfer capability of a 230-kV AC line would cost approximately two to three times as much as an AC line, with no apparent environmental benefits. Underground systems were also evaluated but eliminated because of technical complications, economic and environmental costs, and poor accessibility, although some aesthetic impacts would be avoided. No other method is available for the economical bulk-power transmission of electric energy from a generating source to load centers.

Other systems considered included: 1) capacitor additions at Shelby-Cut Bank; 2) a Conrad-Cut Bank 230-kV line; and 3) a Havre-Shelby 230-kV line. Analysis indicated that the proposed action would be better than any of these for solving the long-term problem.

After investigating the above alternatives, Western concluded that a new 230-kV line should be constructed between Conrad and Shelby. Design alternatives for voltage, structures, and conductor were considered. Results of design-alternative evaluations are incorporated in the following description of the proposed action and routing alternatives.

## ALTERNATIVE CORRIDOR AND SUBSTATION COMPARISON

Environmental studies were conducted for several alternative transmission line routes between Conrad and Shelby and for substation sites south of Shelby. Study topics included vegetation, wildlife, air, visual and socioeconomic characteristics, archaeological and historical values, soils, paleontology, and hydrology. Other studies analyzed potential electrical, biological, health, and safety effects from the proposed project.

An extensive public involvement program was begun early in the planning process with scoping meetings and agency contacts to provide information on the proposed projects and to solicit information regarding environmental issues. Further public workshops were held to obtain data for the environmental studies and to solicit public views on alternative routes and substation sites.

## EXISTING ENVIRONMENT

Most land in the study area is privately owned. There are small areas of public land under the jurisdiction of the U.S. Bureau of Land Management (BLM), the Montana Department of State Lands, and Pondera and Toole counties.

The predominant land use in the study area is agriculture. The proposed project is in the area known as the "Golden Triangle" due to the rich agricultural productivity.

Approximately 50 percent of the agricultural land in the study area is nonirrigated cropland used primarily for growing wheat and barley. Irrigated land occupies 20 to 25 percent of the study area, primarily in Pondera County. On irrigated cropland, the trend is toward center pivot or wheel-type sprinkler systems, with flood irrigation used mainly near rivers and drainages. The remainder of the study area is range or undeveloped land with steep slopes along drainages.

Urban areas within the study area include Conrad and Shelby. Oil and gas wells are dispersed. Military facilities including buildings and missile silos occupy some land in the area.

There are no known archaeological sites in the study area. One historic site, the Conrad City Hall, is listed on the National Register of Historic Places (NRHP). Sites from all prehistoric periods probably exist in the study area, but their significance and location are unknown.

The five major vegetative communities in the study area are prairie, shrublands, breaks, cropland, and riparian. Most of the natural vegetation is prairie, although the majority of the upland prairie communities have been plowed and converted to cropland. Two main noxious weed species, spotted knapweed and leafy spurge, have been identified as needing control in the study area. Although it is possible that federal- or state-protected plant species may exist in the area, none have been identified.

Cropland, grassland, wetland, and riparian are the four wildlife habitat types occurring within the study area. Big game species are mule deer, white-tailed deer and pronghorn antelope. Game birds include pheasant, partridge, grouse, geese, and ducks. Three species listed as endangered by the U.S. Fish and Wildlife Service (USFWS) may occur in the study area. These are the peregrine falcon and bald eagle, which may migrate through the area, and the black-footed ferret, which might be found in the prairie dog town crossed by the line.

## ENVIRONMENTAL CONSEQUENCES

Land-use concerns expressed during the project scoping process included potential effects on agricultural practices and interference with aviation and military communication facilities.

The most significant potential land-use impacts are physical conflicts with present and future agricultural activities and removal of cropland from production. Long-term impacts would include interference with cultivation, weed problems around transmission towers, interference with sprinkler irrigation equipment, and potential conflicts with spray planes.

The construction and operation of the proposed line would remove approximately 0.43 acre of cropland from production for the life of the project. The Shelby substation site would remove 5 acres of nonirrigated cropland from production. An additional impact zone of unknown extent would exist in the vicinity of the new Shelby substation because of the convergence of new lines into the substation.

Benefits of the project to local residents would include increased reliability of electrical service and decreased costs associated with failures of water pumps, irrigation systems, and residential heating systems from the project during the construction period. The economies of Conrad and Shelby would benefit. There would be minor loss of tax base in Pondera and Toole counties resulting from use of agricultural land for substation facilities.

Visual impacts would affect 24 residences located with 0.5 mile of the preferred route. The Shelby substation would create visual impacts to one residence located within 0.5 mile

Visual impacts would be adverse, direct, and long-term. Visual intrusion of the transmission line would continue throughout the life of the proposed project. Dull-surface conductors would be used to reduce conductor visibility as much as possible. Structures would be placed to avoid scenic features wherever possible. These measures can reduce visual impacts to some degree, but the line would remain highly visible.

Construction activities would stir up some dust but long-term air quality standards would not be violated. There might be some potential for soil erosion as a result of construction disturbances, but this could be largely prevented by avoiding susceptible areas.

Short-term impacts to wildlife would occur during the construction phase. They include disturbance of animals by noise and the presence of humans and temporary loss of habitat because of construction activities. Long-term impacts result from the presence of the transmission line. They include loss of birds from collisions with structures and wires and permanent loss or alteration of habitat which is occupied or affected by the line.

The placement of structures in grassland and cropland wildlife habitat would not result in significant long-term biological impacts. The proposed Shelby substation and associated connecting lines would present a potential collision hazard for migratory waterfowl that use seasonal wetlands in that area. The hazard to waterfowl is expected to be "moderate," though it cannot be quantified.

Although there is potential for significant impacts to archaeological and historical resources, unavoidable adverse impacts cannot be identified until the results of the intensive cultural resources survey are assessed and consultation between Western and the State Historical Preservation Office (SHPO) is completed. Western will confer with the SHPO to determine procedures for reducing or avoiding adverse impacts to archaeological and historical resources.

ELECTRICAL EFFECTS

The electrical effects considered result from corona and electric fields. Corona is the electrical breakdown of the air into charged particles. Effects of corona, which are greatest during wet weather, include noise, light, creation of photochemical oxidants, and radio and television interference. No significant adverse effects from noise, light, or photochemical oxidants are anticipated. Any impacts on radio and television reception would be small and would be remedied by Western.

Electrical and magnetic fields created by the proposed transmission line could induce currents and voltages in people or objects near the transmission line. Although there are no federal standards for electrical fields from transmission lines, maximum field strengths of the proposed transmission line would be within the recommended limits set by states, including Montana. No adverse health or biological effects are anticipated. The field strength of the line would be no greater than that of applicances in the home.

The current induced in the largest anticipated vehicle under the proposed line would be less than the National Electric Safety Code criterion of 5 mA. Major shocks from induced currents would not occur because of the relatively

low field strengths and grounding practices of Western. Minor shocks might occur occasionally as a nuisance rather than a hazard. Spark discharges from induced voltages could occur on inadequately grounded objects under the proposed line but this would be rare.

Adverse electrical effects on agriculture are not anticipated because the electrical fields from the proposed transmission line are weaker than those known to affect crops. Honeybee hives could be affected if they were located on the right-of-way. This impact would be reduced or eliminated by Western's commitment to relocate affected hives.

PART II

STATE OF MONTANA COMMENTS ON WESTERN'S DRAFT IMPACT STATEMENT

During the formal comment period on the draft EIS for the Conrad-to-Shelby project, DNRC submitted a series of comments regarding the adequacy of the document. These comments were intended to supplement Western's analysis and to point out deficiencies in the draft EIS.

If Western responds adequately to these comments in its final EIS, the state will adopt Western's final EIS as adequate to meet state law. However, if Western's responses are not sufficient to meet state law, DNRC will issue a supplementary document to remedy the deficiencies. The state's comments on the draft EIS follow below.

ANALYSIS OF NEED FOR THE PROJECT

Comment:

The glossary of the draft EIS should contain two additional definitions to help readers understand the discussion contained in Chapters One and Two. The definitions are:

Line Losses: Electric power required to overcome resistance in a transmission system, measured by the difference between the amount of power generated and the amount of power delivered to customers.

Present Worth: Also known as present value or discounted value. The value today of a sum of money expected to be earned or paid in the future. This value reflects the interest cost of delaying receipts and allows comparison of values at different times.

Comment:

Evaluations of both private investments and federal projects generally include a comparison of the benefits and the costs. DNRC has previously indicated to Western that information about both the benefits and costs of a project and the uncertainty of those benefits and costs is vital to Western's decision process and the explanation of decisions through an EIS. DNRC feels that analysis of costs and benefits is essential to satisfy the requirements of the National Environmental Policy Act and the Montana Environmental Policy Act.

Western presents its "economic analysis" of the proposed project and three alternatives on pages II-6 and II-7 and in Table II-1 on page II-12. DNRC considers this analysis incomplete and confusing. The analysis does not consider the main sources of benefits of either the proposed project or its alternatives. It treats line losses as a cost of the project when a reduction in line losses is one of the benefits of the project. It also includes the cost of rebuilding the Havre-Shelby 115-kV transmission line in project costs when that line is not part of the project under consideration. The result is an overstatement of the costs of the project and its alternatives with no statement of their benefits. This provides no basis for comparing the proposed project with the no-action alternative and only an incomplete basis for comparison of the four options considered.

In deciding whether the proposed project complies with the substantive provisions of the Montana Major Facility Siting Act, the Board of Natural Resources and Conservation is required to consider both its benefits and costs. DNRC therefore conducted an analysis of the benefits and costs of the proposed project and alternatives. DNRC found that the benefits of Western's proposed Conrad-Shelby 230-kV transmission line are reasonably likely to exceed the costs and that it is the lowest cost option that would solve the area's electrical problems. DNRC agrees that Western's proposed action is the best option. The reasons for this choice must be presented to the public.

Since Western's draft EIS does not adequately address the need for and alternatives to the proposed project, DNRC prepared a more detailed analysis of these issues as required by the Siting Act and submitted the analysis to Western. A copy of DNRC's analysis follows.

## ECONOMIC ANALYSIS OF THE PROPOSED ACTION AND ALTERNATIVES

An economic analysis of the benefits and costs of a proposed project shows whether, from society's viewpoint, the benefits are likely to exceed the costs and the risks are acceptable. The actual benefits of the proposed project will depend on both future electricity demand and the future service interruptions that the project would protect against. The limited amount of information available to estimate future electricity demand and the costs of transmission problems adds an element of uncertainty. Faced with this potential for uncertainty, DNRC's economic analysis focused on determining the level of confidence with which it can be said that the benefits of the project will be greater than its costs. DNRC found the risk associated with the costs being greater than the benefits is small (DNRC 1985; DNRC 1986c).

### Options Examined

DNRC estimated the possible ranges of benefits and costs for each of the options considered in Table II-1. Any estimation of benefits and costs requires a baseline for comparison. DNRC used the no-action alternative as this baseline, and the benefits and costs in comparison to no action were computed for each alternative. The uncertainty of the benefits is reflected in the range of possible values presented for each type of benefit.

### Benefits of the Options

Any of the four construction options would benefit electricity consumers by preventing or delaying the dramatic deterioration of service reliability that would be experienced by customers in the Browning-Cut Bank-Shelby area if no action were taken.

Utility reliability criteria generally require that a transmission system be able to serve all loads even with any single transmission line out of service. The Browning-Cut Bank-Shelby area can barely meet this criterion at present. Load flow studies performed by Western and reviewed by DNRC's electrical engineering contractor show that by 1990 an outage on the existing 115-kV line from Conrad to Cut Bank during a high load period would result in

unacceptably low voltage and loss of power to some consumers in the Browning-Cut Bank-Shelby area. Later in the 1990s an outage on the Havre-Shelby 115-kV line would cause similar problems, and the problems would continue to worsen as power demand grows in the area (Western 1985; DNRC 1986a). If no changes were made in area's transmission system, customers could expect to experience more outages in the future than they do today.

Engineering reliability criteria could be violated in an area where loads are so small or outages are so infrequent that the cost of meeting the engineering reliability requirement is greater than the benefits. Public investment projects must normally meet certain economic standards besides the relevant engineering requirements. The proposed project should not be an exception. Specifically, the proposed project should be examined to determine whether its benefits would be greater than its costs and whether it is the best option. Since the benefits are uncertain, it is appropriate to evaluate the risks involved in making the investment.

Montana's substantive standards for need and minimum adverse impact for a transmission line require that three tests be met. First, there must be a problem that will be solved in a timely manner by the proposed line. If no action is taken, the utility's reliability criteria would be violated within 2 years of the date the proposed facility is to be placed in service (ARM 36.7.3506 (7)(a)). Second, the benefits of the project must exceed its costs. The value of reduced outages and improved reliability over the life of the line must be reasonably likely to exceed the cost of the line (ARM 36.7.3506 (7)(b)). Third, the proposal must be better than any reasonable alternative. The option chosen must have the lowest cost of the options that would satisfy the first two requirements.

Any of the four construction options would provide benefits. They would prevent or slow the deterioration of service reliability by enabling the system to continue to supply power at acceptable voltages even with one transmission line out of service. This would benefit electricity customers by reducing the number, duration, and costs of outages and by increasing the certainty of their electricity supply. The transmission alternatives would deliver power over new

transmission lines with higher capacity and lower resistance than existing lines. This would reduce the amount of power lost in overcoming the resistance in the line and would make this additional power available to consumers.

Reduction in future outage costs

Any of the four construction options would provide benefits by reducing the costs that would be imposed on customers by transmission system failures. These costs increase with the total amount of time without service and with long individual outages. Greater demand for power in the future will increase the cost of outages. None of the options would protect consumers against system-wide outages or failures of local distribution lines.

The proposed Conrad-Shelby 230-kV line would provide reliable transmission service to the Browning-Cut Bank-Shelby area until well after 1996. Beyond this point, it would no longer provide full service in some outage situations but would still provide benefits.

The addition of capacitors at the Shelby and Rudyard substations would maintain transmission reliability in the area only through about 1996. This option would solve the reliability problem for a shorter period than the other options and would provide approximately 35 percent of the benefits estimated for the Conrad-Shelby line.

Both the Conrad-Cut Bank and Havre-Shelby options would provide full service in the face of single transmission line outages through 1996, but reliability would begin to deteriorate soon after that date. Either of these options would provide more benefits and a longer lasting solution to the reliability problem than the addition of capacitors at Shelby and Rudyard. However, they would solve the problem for a shorter time and with fewer benefits than the Conrad-Shelby option.

Outages: Precise data on local outages was not available from Western, although data representative of outages from a larger area were supplied. Western supplied and DNRC used data compiled by the Mid-Continent Area Power Pool to estimate how often customers in the Browning-Cut Bank-Shelby area would

experience outages of different lengths due to transmission failures if the present system were left unaltered (DNRC 1986b). Consumers would experience additional outages and costs due to system-wide failures and distribution failures. However, only outages on the area transmission system, which would be ameliorated by the proposed line, are considered here. The total amount of time that customers might be without power each year due to transmission failures and the likelihood of that total outage time occurring is given in Table 1.

TABLE 1
Total Annual Outage Time

| Time | Probability |
|---|---|
| 0-24 hours | 23.5% |
| 24-48 hours | 14.0% |
| 48-72 hours | 12.8% |
| 72-96 hours | 11.0% |
| 96 + hours | 38.7% |

Table 2 provides information on the likelihood of consumers experiencing long outages during the winter. It indicates that, with no action, consumers could expect an outage of at least 12 hours in 3 out of 4 years. This is the time an average Montana house would take to drop from 55 degrees to the freezing point in cold winter weather.

TABLE 2
Winter Outage Length

| Duration | Probability of at least one outage per winter longer than given duration |
|---|---|
| 1 hour | 97.4% |
| 6 hours | 85.6% |
| 12 hours | 73.2% |
| 24 hours | 53.6% |
| 48 hours | 28.7% |

Costs of outages: DNRC identified four types of significant costs of power outages (DNRC 1986c). These are (1) lost residential electric service; (2) lost, delayed or damaged industrial production, (3) damage incurred by

residential customers, primarily from frozen pipes; and (4) damage incurred by commercial customers, primarily from spoilage of refrigerated and frozen food. Actual outage costs in any year will depend on the number of outages, their length and timing, load growth, and other factors.

Estimates of the values residential customers would place on lost electrical service due to the range of possible increased outages with no improvements in the transmission system are given in Table 3. (All costs are presented in 1988 dollars.)

TABLE 3
Annual Cost of Interrupted Residential Service in 1990*

| Cost | Probability |
|---|---|
| $0-$130,000 | 10% |
| $130,000-$500,000 | 25% |
| $500,000-$1,300,000 | 30% |
| $1,300,000-$2,900,000 | 25% |
| more than $2,900,000 | 10% |

*The range of these costs would be greatly reduced if households bought and used back-up generators. However, this is unlikely to be widespread unless total lost residential service averages at least $2 million per year.

Estimates of the range of possible losses industrial customers would sustain due to increased power failures in a year if no action is taken are presented in Table 4.

TABLE 4
Annual Value of Industrial Losses in 1990

| Cost | Probability |
|---|---|
| $0 | 10% |
| $1-$1,500,000 | 25% |
| $1,500,000-$3,400,000 | 30% |
| $3,400,000-$7,900,000 | 25% |
| more than $7,900,00 | 10% |

Residential and commercial damages would occur only during long outages and only during part of the year so the damage in any given year may be zero. However, in years when long outages occur, damage can be appreciable. Unless

the transmission system is improved, residential damage could be expected to occur in 3 out of 4 years, and commercial damage could be expected in about 4 out of 10 years. In years with long winter outages, residential damage would range upward from $4 million, and long outages could produce commercial damage of up to $1 million.

The actual cost of future outages is uncertain. However, the severity of outage costs and their probabilities of occurring can be combined to give estimates of the range of total benefits that could be expected from avoiding increased outages. Table 5 shows the probabilities of different levels of the benefits that might result from avoiding outages for 25 years. This is equivalent to the benefits that would be produced by the Conrad-Shelby option.

TABLE 5
Discounted Benefits from Avoided Outages over 25 years

| Benefits | Probability |
|---|---|
| $0-$33 million | 15% |
| $33-65 million | 20% |
| $65-120 million | 30% |
| $120-180 million | 20% |
| $180 million or more | 15% |

Increased Certainty of Service

Besides avoiding the costs of specific outages, improving reliability would benefit consumers by reducing uncertainty in their lives. The value of this reduction in uncertainty was estimated using a standard technique developed to estimate the premiums people would pay to insure against various risks. This technique indicated that to insure against losses from power failures that could occur if the transmission system were not improved, typical customers would pay the average level of their losses plus .07 percent of their annual electric bills. This excess over the average loss is the value people place on increased certainty. Electricity consumers in the area all together would be willing to pay a total of $950 a year for this increase in certainty. The discounted value of this benefit over 25 years is $13,800.

## Reduced Line Losses

With less power lost in overcoming line resistance, additional power is available for use by consumers. This means that additional generation capacity will not be needed as soon. Table 6 shows reductions in losses that would result from options during peak load periods.

TABLE 6
Reduction in Peak Load Line Losses (MW)

| | 1988 | 1995 | After 1996 |
|---|---|---|---|
| Capacitor Additions | 0.30 | 0.39 | 0.35 |
| Conrad-Shelby | 2.29 | 4.27 | 3.73 |
| Conrad-Cut Bank | 2.32 | 3.85 | 3.63 |
| Havre-Shelby | 1.81 | 2.73 | 2.34 |

These peak savings were adjusted for average loads and the resulting values were multiplied by Western's current surplus sales rate of 12 mills/kWh. This produces a very conservative measure of the benefits from reduced line losses. The current value of a kWh of avoided generation is at least 12 mills and will increase up to the cost of new generation facilities, currently about 50 mills/kWh, as the current area surplus of generation disappears in the 1990s. The discounted value of these savings for each of the options over 25 years is given in Table 7.

TABLE 7
Discounted Value of Savings from Reduced Line Losses

| | |
|---|---|
| Capacitor Additions | $ 194,800 |
| Conrad-Shelby line | $1,961,400 |
| Conrad-Cut Bank | $1,894,800 |
| Havre-Shelby | $1,287,900 |

## Total Benefits of the Options

The total benefits of each option are the sum of the value of reduced outages, the value of increased certainty and the value of reduced line losses. Table 8 gives ranges of the total discounted benefits of the Conrad-Shelby and capacitor additions options and the likelihood that benefits

would fall into each range. These are the alternatives with the highest and lowest benefits. The Conrad-Cut Bank and Havre-Shelby options would have fewer benefits than the Conrad-Shelby line and more than the capacitor additions option.

TABLE 8
Distribution of Discounted Value of Benefits

| Benefits (millions) | | Probability |
|---|---|---|
| Conrad-Shelby | Capacitor Additions | |
| $0 - $17.5 | $0 - $5.6 | 5% |
| $17.5 - $35.4 | $5.6 - $11.9 | 10% |
| $35.4 - $67.2 | $11.9 - $23.0 | 20% |
| $67.2 - $120 | $23.0 - $42 | 30% |
| $120 - $180 | $42 - $63 | 20% |
| $180 - $250 | $63 - $88 | 10% |
| $250 or more | $88 or more | 5% |

There is a 70 percent probability that the benefits of the Conrad-Shelby transmission line option will be between $35 million and $180 million. For the capacitor additions option, there is a 70 percent probability that the benefits would be between $11.7 million and $63 million.

## Costs of the Options

Each option would incur capital costs at the time of construction and operation and maintenance (O&M) costs over its lifetime. The Havre-Shelby alternative would avoid the costs associated with the planned reconstruction of the existing Havre-Shelby line in 1996. Since all of the other options, including no action, assume that the Havre-Shelby line would be rebuilt in 1996, the costs of the rebuild must be subtracted from the costs of the Havre-Shelby option to give a fair comparison. The costs of the four construction options are given in Table 9.

TABLE 9
Costs of the Four Construction Alternatives

| | CAPACITOR ADDITIONS | CONRAD-SHELBY | CONRAD-CUT-BANK | HAVRE-SHELBY |
|---|---|---|---|---|
| **Costs Incurred for Construction and Maintenance** | | | | |
| Capital cost, 1988 | $12,479,500 | $11,397,400 | $13,364,600 | $29,411,000 |
| Annual O&M (3.5% escalation) | $ 125,900 | $ 104,000 | $ 109,500 | $ 159,700* |
| **Costs Avoided by Not Rebuilding the Havre-Shelby Line in 1996 (Havre-Shelby Alternative Only)** | | | | |
| Capital cost, 1996** | -- | -- | -- | $11,205,500 |
| Annual O&M*** | -- | -- | -- | $ 60,000 |
| **Value of Costs Discounted to 1988** | | | | |
| | $14,170,000 | $12,793,000 | $14,834,000 | $26,448,000 |

* Substation O&M only for Havre-Shelby

** If the Havre-Shelby line is upgraded to 230-kV specifications in 1996 instead of just being rebuilt, the avoided construction cost would be $38,915,000 and the discounted value of the cost difference would be $14,282,600.

*** O&M would be higher on the existing Havre-Shelby line than on the reconstructed line.

Economic Comparison of the Alternatives

The proposed Conrad-Shelby 230-kV line is economically preferable to the other options. The benefits of the proposed line are reasonably likely to exceed the costs and it has the greatest net benefits. Although the benefits of any transmission project are uncertain and depend on actual future transmission outages and load growth, the probability that the benefits of the preferred alternative will be less than the costs is less than 5 percent. Even if it only solves the reliability problem through 1996, the probability that the benefits would be less than the costs would be approximately 10 percent.

The Conrad-Shelby option has the lowest cost and greatest benetits ot the four construction options examined. Its cost is more than a million dollars less than the cost of the other options examined and it would provide up to three times the benefits of the other options. Although environmental costs

are not included in these calculations, both Western and DNRC environmental analyses indicate it is extremely unlikely that environmental impacts would make the costs greater than the benefits or change the ranking of the options.

References

Western Area Power Administration (Western), 1985.
"Facility Development Report: Conrad-Shelby 230-kV Transmission Project." June. Division of System Studies, Billings Area Office, Billings, MT.

Department of Natural Resources and Conservation (DNRC), 1985.
"Analysis of Need for Montana Power Company's Proposed Laurel to Bridger 'B' Line." May 1985. Dan Dodds, Economist, Energy Division. Helena, MT.

Department of Natural Resources and Conservation, 1986a.
"Analysis of Conrad-Shelby Load Flows." May 1986. A technical paper prepared under contract for Energy Division by Ramesh Sood, Electrical Engineer, Helena, MT.

Department of Natural Resources and Conservation, 1986b.
"The Distribution of Transmission Outages." July 1986. A technical paper prepared for the Conrad to Shelby project. Dan Dodds, Economist, Energy Division. Helena, MT.

Department of Natural Resources and Conservation, 1986c.
"Analysis of Need and Alternatives for Western's Proposed Conrad-Shelby Project." July 1986. A technical paper prepared by Dan Dodds, Economist, Energy Division. Helena, MT.

IDENTIFICATION, ANALYSIS, AND MITIGATION OF ENVIRONMENTAL IMPACTS FROM THE PROJECT

Comment:

The draft EIS is unclear and misleading in its discussion of impacts and mitigation. Appendix A, Task 4F, on page A-9, describes how mitigation was identified in the route selection process. Neither the mitigation measures alluded to nor the areas where these measures will be taken are clearly described in the document.

Comment:

Based on field review of the proposed centerline shown in the draft EIS, DNRC noted two areas where mitigation for visual impacts should be considered.

a) Opportunities for implementing selective mitigation should be explored for the residence at the crossing of Pondera Coulee (T28N, R2W, S11, SW1/4). Here the proposed centerline is located approximately one-tenth mile from the residence. Opportunities for structure placement and/or centerline adjustments to reduce visual impacts should be explored.

b) Ground disturbance and visual impacts could be reduced by relocating an access road east of Ledger (T29N, R2W, S24, NW1/4). Relocation from the steep face of the Dry Fork to the relatively flat bench top south of the Ledger Road would accomplish this.

Comment:

Since the maximum electric field strength of the proposed facility falls within the range reported by the literature to affect honeybees, it cannot be categorically stated that the field is unlikely to have adverse effects on any hives located beneath the line. The statement on page IV-35, paragraph 4a, directly conflicts with information provided in Appendix D. The text should be

revised to reflect information about possible impacts on bee hives and Western's commitment to mitigate those impacts as specified in Appendix D, paragraph 2a.

Comment:

It is impossible to determine from the draft EIS what specific impacts construction of the line would have on riparian vegetation. The initial problem is the lack of a clear definition of "riparian." The vegetation section refers to Section H (Floodplains and Wetlands). The wildlife section refers back to the vegetation section. Section H fails to clearly describe and define riparian vegetation. The issue is further confused by the glossary's definition of riparian.

The final EIS must correct the contradictions regarding impacts to riparian vegetation (p. III-23, line 15; p. III-29, lines 14 and 15; Figure IV-6). Does the preferred route cross riparian vegetation? Would riparian vegetation (i.e. cottonwoods) be removed?

Comment:

The biological section is incomplete with regard to information sources used to describe baseline conditions. The draft EIS (p. II-26) states that information came from "existing data sources with supplementary field investigations." Subchapters III-G and III-H must incorporate all local references. If information is based on field studies, the methodologies must be briefly described. Figure III-10 must show sources of wildlife information. Figure III-9 should also contain information sources.

Comment:

The draft EIS does not make it clear how the proposed project would affect wetlands. The draft EIS (p. III-28) uses the USFWS (1979) definition of wetlands. However, subsequent evaluations of the preferred route and impacts use a modified definition of wetlands (see pp. III-29, lines 18 and 19; IV-26, lines 1 and 2). The final EIS must address impacts to wetlands as defined by the USFWS and with respect to Executive Order 11990.

Comment:

The draft EIS does not indicate whether the high impacts to eagles would be caused by powerline collisions, disturbance, habitat loss, or all three. The final EIS must clarify impacts and relate mitigations (i.e. selective mitigations #10 and #12) to impacts.

Comment:

The draft EIS does not present a clear picture of the significance of waterfowl collisions with the powerline. Pages IV-27 and IV-28 classify impacts near the Shelby substation as moderate but insignificant. The significance is evaluated on a broad basis. ("...would not be expected to have a significant overall adverse affect upon any given species.") The final EIS must also attempt to evaluate impacts on a smaller (more relevant) basis. Would waterfowl mortality be noticed by sportsmen, agency biologists, or landowners? Would mortality rise above an "acceptable" level? The last paragraph on p. III-26 should be considered during the evaluation. The insignificant classification is contradicted by the determination of significance on p. IV-41. This conflict must be resolved.

Also, page III-26 (last paragraph) states that waterfowl migrate along the Marias River. The final EIS must, therefore, address impacts of the proposed line to waterfowl migrating along the river.

Comment:

If impacts to waterfowl are determined to be significant, the final EIS must include mitigation measures. Due to the uncertainty regarding the magnitude of line strikes (p. IV-28, line 3), a monitoring program could be proposed. Results of the program would then be evaluated for significance by interagency biological staff. A determination of significance could lead to marking the line, acquisition or management of habitat, or removing some sections of the static wire. (The final EIS must clarify if selective mitigation #12 includes measures for waterfowl impacts.)

Comment:

The draft EIS is not correct or adequate in its treatment of soil compaction problems which are likely to result from construction of the proposed project. In several places, notably page IV-2 in the Agricultural Impact section and in Table II-6, unsupported statements are made that compaction impacts are short term and would last from 1-3 years. In addition, the appropriate mitigating measure--deep ripping--is mentioned only in passing on page IV-4, paragraph 6. On the other hand, the draft EIS incorrectly states that long-term soil compaction problems will be greater due to farming around the transmission structures than construction of the line itself (Table II-6 and page IV-4, paragraph 6).

All literature DNRC is aware of and results from field observation on the Great Falls-Conrad line indicates that construction of the proposed project will result in soil compaction. The problems from off-road travel by loaded cement trucks, drilling rigs, and large cranes will be more severe and longer lasting than the draft EIS recognizes. The obvious mitigating measure--deep ripping--will reduce the compaction problem and can be done immediately following line construction by equipment that will already be on the construction site. These impacts must be addressed and mitigated.

ADOPTION OF STANDARD ENVIRONMENTAL SPECIFICATIONS

Comment:

When reviewing this project for compliance with the Montana Major Facility Siting Act, the Board of Natural Resources and Conservation will require that Western comply with the Board's Standard Environmental Specifications for Transmission Lines. A copy of these were sent to Western prior to publication of the draft EIS under separate cover. Measures to be taken during construction when crossing highways, addressing landowner concerns, archaeological and historical resource protection, reclamation, and construction monitoring efforts will be addressed. A final set of these

environmental specifications should be agreed to before DNRC makes its report to the Board of Natural Resources and Conservation. A copy of these specifications will be included in DNRC's Report to the Board.

COMPLIANCE WITH AIR AND WATER QUALITY AND SOLID WASTE STATUTES

Comment:

The attached letter from the Department of Health and Environmental Sciences (DHES) indicates that the draft EIS is not adequate to make determinations regarding compliance with air quality, water quality, or solid waste disposal requirements. The DHES determinations must be made before the Board of Natural Resources and Conservation can make its determination.

Additional state agency concerns are included in the following letters on the Western draft EIS.

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
ENVIRONMENTAL SCIENCES DIVISION

TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

(406) ~~449-2946~~ 444-3948

HELENA, MONTANA 59620

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MONT. DEPT. of NATURAL RESOURCES & CONSERVATION

December 11, 1986

Kevin Hart, Special Projects Coordinator
Facility Siting Bureau
DNRC
Helena, MT 59601

RE: No Response from WAPA on DHES Review of the Shelby to Conrad 230 kV Transmission Line

Dear Kevin:

Enclosed is a copy of the DHES review of the Western Area Power Administration's (WAPA) preliminary draft environmental impact statement which was made last summer. A review of the draft EIS does not show that the water quality and hazardous waste questions were answered in the detail requested by the department. Solid waste considerations were mentioned under construction (item #10 - Cleanup and Removal: page II-18), but only in a passing reference.

To enable the DHES to comply with its mandated duties, WAPA needs to answer the requested information. If the WAPA people want to deal directly with Abe Horpestad, Water Quality Bureau (444-2406) and Vic Andersen, Solid and Hazardous waste Bureau (444-2821) they can, or they can contact me.

Sincerely,

Thomas M. Ellerhoff
Technical Writer

jg

Enclosure

AN EQUAL OPPORTUNITY EMPLOYER

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

(406)444-3948

HELENA, MONTANA 59620

July 10, 1986

Kevin Hart, Special Projects Coordinator
Facility Siting Bureau
DNRC
Helena, MT 59601

RE: Review of Conrad to Shelby 230 kV
Transmission Line Preliminary DEIS

Dear Kevin:

The Western Area Power Administration's (WAPA) preliminary draft environmental impact statement for the construction of a 230 kV transmission line between Conrad and Shelby was reviewed by the Water Quality (WQB), Air Quality (AQB) and Solid and Hazardous Waste (SHWB) bureaus.

The following comments were made concerning the environmental health aspects of the plan:

Water Quality - The plan mentions that the preferred route crosses the Marias River and the Dry Fork of the Marias River, in addition to one perennial stream, Pondera Coulee and 13 ephemeral streams. The Water Quality Bureau needs to know the names of all the perennial and ephemeral streams that would be crossed in all the routes, preferred and alternates. The bureau also needs to know if construction activity will temporarily alter water quality and, if so, determine if WAPA will need to apply for a short term exemption to alter water quality standards (Short Term Exemption from Water Quality Standards for Construction Activity - ARM 16.20.633 (3)).

Air Quality - Reference the enclosed letter from Warren Norton.

Solid and Hazardous Waste - Reference the enclosed memo from Vic Andersen.

If WAPA or Goodson and Associates, Inc. have any questions or comments concerning the Department of Health and Environmental Sciences' review, have them call me (444-3948) or Abe Horpestad, WQB, (444-2406), Warren Norton, AQB, (444-3454) or Vic Andersen, SHWB, (444-2821).

Sincerely,

Thomas M. Ellerhoff
Technical Writer

jg

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DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

AIR QUALITY BUREAU

TED SCHWINDEN, GOVERNOR

COGSWELL BUILDING

STATE OF MONTANA

(406) 444-3454

HELENA, MONTANA 59620

June 30, 1986

Mr. Richard Moore
Goodson and Associates, Inc.
11949 West Colfax Avenue
Denver, CO 80215

Dear Mr. Moore:

Thank you for the opportunity to comment on the proposed Conrad to Shelby 230 KV Transmission Line Project. The air quality regulations which could affect the construction or improvements to powerlines include the following:

1. Rock crushers used to produce gravel for road improvements are required to obtain an air quality permit from this office. If this material is purchased from an existing producer who is already permitted, then this requirement is covered.

2. Any open burning necessary to dispose of brush or slash from right-of-way clearing must be accomplished in accordance with the state open burning regulations.

3. Any fugitive dust produced by heavy truck traffic or general construction activities must be controlled with water trucks in residential areas.

Considering the powerline improvements listed in your letter, I would not expect any of these to be significant air pollution sources. Therefore, this project should not affect the EPA-approved State Implementation Plan. If you need more information or have other questions, please contact me.

Sincerely,

Warren Norton
Environmental Specialist

WN:sj

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# Office Memorandum

STATE DEPARTMENT OF HEALTH
AND ENVIRONMENTAL SCIENCES

TO : Tom Ellerhoff

DATE: July 3, 1986

FROM : Vic Andersen VA

SUBJECT : Conrad-Shelby 230 kV Line

No mention is made of solid waste or hazardous waste handling or disposal. The only reference to waste management I found was in the air section where they proposed burning all debris. I don't know what plans they've made for wastes. They need to address this matter and include a section in the contractor requirements, which I would like to see included in the EIS.

jg

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CAPITOL STATION

# DEPARTMENT OF STATE LANDS

TED SCHWINDEN, GOVERNOR

STATE OF MONTANA

(406) 444-2074

1625 ELEVENTH AVENUE
HELENA, MONTANA 59620

December 16, 1986

MEMORANDUM

TO: Wayne Wetzel, Facility Siting Bureau Chief

FROM: Kelly Blake, Lands Division Administrator

RE: Comments on the Conrad-Shelby 230 kV Transmission Line E.I.S. (Western Area Power Administration)

We have reviewed the preferred alternative in the above-referenced E.I.S. and have had department personnel at several scheduled public meetings.

The 33 mile line as proposed will utilize approximately 6 miles, more or less, of State land. This is probably the least amount of State land crossed by a said W.A.P.A. project, yet it still encompasses 20% of the project.

We are concerned that Section 501-2(s) of the M.C.A. Facility Siting Law, encourages "power marketing agencies to select public land over private land when all other factors are equal". The State needs to stress to W.A.P.A. that "School Trust lands" are not public lands and therefore should not be selected over private lands, as the above law states.

One section of the five sections of State land in the preferred route might be environmentally sensitive. This section is where the Marias River will be crossed; Section 36, Township 31 North, Range 2 West, Toole County, W.A.P.A. has done a good job of spanning rivers in the past and therefore we do not envision problems with the crossing. We will however request W.A.P.A. to conduct a cultural resource study on the right of way corridor near the river as this area is reputed to have a history of Indian habitation. When conducting such a study we request improved communication between W.A.P.A.'s archaeological staff and DSL's archaeologist. On past projects we have been largely ignored when W.A.P.A. has done such studies on department lands. This should be the opposite case; we should know precisely what is going on, what is found and if

the cultural artifacts are catalogued, they should be packaged and shipped to our department. These artifacts belong to the State of Montana, not to W.A.P.A.'s cultural subcontractor.

A final item that needs to be answered is a question brought out at the public hearing in Conrad, December 10, 1986. It appears that W.A.P.A. contradicted a statement made earlier at a scoping meeting last spring. The statement dealt with allowable irrigation under a W.A. P.A. transmission line. At the December 10, 1986, meeting our DSL representative asked whether wheel-like irrigation would be permitted and he was given an affirmative answer. Last spring, a W.A.P.A. representative stated that under no circumstances is any irrigation allowed under a W.A.P.A. transmission line. We need to have this cleared up.

It is our feeling that the Conrad-Shelby route is pretty good, and on most of our sections they have hugged the section lines to avoid major severance problems. 50% of the State lands are in agricultural use, and this may require additional effort on our lessee' part, but we conclude that the chosen route is a good one.

jd

cc: Larry Pyke, Central Land Office
Dori Passmann, Resource Development Bureau

**Montana Department of Fish, Wildlife & Parks**

1420 East 6th Avenue
Helena, MT 59620

December 22, 1986

Mr. Wayne Wetzel
Facility Siting Bureau
Dept. of Natural Resources
and Conservation
1520 East 6th Avenue
Helena, MT 59620

Dear Wayne:

Enclosed are some comments on the WAPA Conrad-Shelby Transmission Line EIS. They were prepared by Gary Olson, our Wildlife Biologist in the area.

In general, the EIS is rather weak in its description of wildlife use in the area and the impacts section is too generic to give a picture of the specific impacts to be expected.

Thank you for the opportunity to comment.

Sincerely,

Robert R. Martinka /RRM/

Robert R. Martinka
Resource Assessment

RRM/bfs

Enclosure

12/18/86

TO: Bob Martinka
FROM: Gary Olson
RE: WAPA Conrad-Shelby Transmission Line Project

I met with WAPA people and Scott McCollough (DNR) on December 11 in Shelby; we spent most of the morning looking at various sites along the project line. From what I have seen, there are few measurable impacts to wildlife as a result of this project. The proposed line does not cross any critical riparian or breaks habitat, and the pothole area north of the Marias River is wet only part of the time. When the potholes are wet I doubt whether they contribute much in the way of good waterfowl habitat, since the entire area is intensively farmed, and litle dense nesting cover exists.

I had not reviewed the EIS prior to the field trip. There are some items that need to be cleaned up in the document, however. If I had read the EIS and not inspected the actual site I would have an entirely different attitude about this project. For instance, mule deer aren't mentioned as one of the typical residents of grassland habitats (III-23) and the references used in this section are mostly very sketchy. An example would be the discussion of big game in III-25. The reference used is an exerpt from Deer of North America; I would think this is a bit broad for a specific reference to the Marias River in Montana. The same was done for whitetail and antelope.

The discussion of upland game birds in III-25 would lead me to believe that those populations exist only because of plants of game farm birds each year. This, of course, is not the case. In the section on furbearers (III-26) they again,have used a very general reference and make no mention of mink or beaver. The discussion of the preferred route in III-26 mentions different wildlife habitats, including winter ranges, but gives the reader no clue as to the source.

In the environmental consequences section (IV-26) various impacts to wildlife are discussed. I can't determineout whether or not there will be any impacts to various wildlfe species based on their discussion of potential effects. They don't come out and say one way or the other; too many "weasel" words!

In general, I would say that this document needs to be tightened up in the wildlife sections to be of much value for someone reading it that has not seen the study area. The references used are either much too broad for the specifics of a power line corridor or they are not mentioned at all. The reader needs to be able to from an opinion about project effects on wildlife and I found this very difficult to do.

DEPARTMENT OF HIGHWAYS

TED SCHWINDEN, GOVERNOR

2701 PROSPECT

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HELENA, MONTANA 59620

December 16, 1986

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MONTANA DEPT. OF NATURAL
RESOURCES & CONSERVATION

Wayne Wetzel, Chief
Facility Siting Bureau
Department of Natural Resources
and Conservation
Helena, MT 59620

CONRAD-SHELBY TRANSMISSION LINE
DRAFT ENVIRONMENTAL IMPACT STATEMENTS

Thank you for the opportunity to review the above captioned DEIS.

The Montana Department of Highways recommends that all towers be constructed well away from public roads so that they do not constitute a hazard for out of control vehicles. On a controlled access highway, such as Interstate 15, provisions for construction and maintenance access should be coordinated through the DOH Great Falls District Office.

You are advised to obtain a Standard Right-of-Way Encroachment Permit (RW-20) for any aerial road crossings or public road access routes. These permits are available from the DOH Great Falls District Office.

It is understood that the contractor will use adequate signing at public road accesses during construction. It is also understood that the contractor will not exceed rated load limits on any structure or road segment during construction or subsequent maintenance.

If you need additional information, please contact this office.

Don Cromer

DON CROMER, SUPERVISOR
RURAL PLANNING SECTION

DC:SS:mb:2/kk

cc: Keenan Bingham
Thomas Barnard
Homer Wheeler
Steve Kologi
Bill Dunbar, FHWA

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MONTANA BUREAU OF MINES AND GEOLOGY
MONTANA COLLEGE OF MINERAL SCIENCE AND TECHNOLOGY
BUTTE, MONTANA 59701
406/496-4180

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Office of the Director

**MEMORANDUM**

December 15, 1986

TO: Wayne A. Wetzel, Chief, Facitity Siting Bureau
Department of Natural Resources and Conservation
1520 East Sixth
Helena, MT 59620

FROM: Edward T. Ruppel, Director, Montana Bureau of Mines and Geology

SUBJECT: **DEIS, Conrad - Shelby Transmission Line Project**

Attached are comments from Bureau scientists familiar with the area.

ETR:tlb

Conrad - Shelby Transmission Line

Comments on Earth Resources p. 111-14 to 111-17 and IV p. 21-22

The section on Earth Resources covers the geology pretty well. A minor point - they cite our Mining Directory as a source of information that "no metal mineral" in the study area. Lack of entries doesn't really indicate no metals. Also, I wonder if their stratigraphic column isn't really modified from Bill Cobban's Professional Paper 974.

I guess a DEIS doesn't have to look at hazards. I would be very surprised if there are not many landslides developed on the Kevin Member.

---

Conrad - Shelby Transmission Line

Comments on Earth Resources p. 111-14 to 111-17 and IV p. 21-22

The DEIS correctly states that the primary source of regional seismicity is the Intermountain Seismic Belt to the west. However, the report fails to mention that significant earthquakes have been located 10 km west of the study area (SE of Cutbank) and 30 km east of the study area. At least six earthquakes have been located within 50 km of the study area. It appears that the NOAA hypocenter data file was never searched for this region and Montana Bureau of Mines and Geology Memoir 51 was not checked. The potentially active faults and seismic hazards of this region are virtually unknown thus making the record of historic seismicity an important clue to potential seismic hazards.

---

Conrad - Shelby Transmission Line

Comments on Earth Resources p. 111-14 to 111-17 and IV p. 21-22

No significant comments from Hydrology Division - appears to be very general - very few references cited; but probably adequate for the DEIS.

DEPARTMENT OF COMMERCE

TED SCHWINDEN, GOVERNOR

1424 9TH AVENUE

STATE OF MONTANA

(406) 444-3494

HELENA, MONTANA 59620-0401

December 10, 1986

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MONTANA DEPT. OF NATURAL RESOURCES & CONSERVATION

Wayne Wetzel, Chief
Facility Siting Bureau
Department of Natural Resources
And Conservation
1520 East Sixth Avenue
Helena, Montana 59620

Dear Mr. Wetzel:

In response to your letter of December 9, 1986 I am forwarding you a copy of our agency's comments with respect to the Draft Environmental Impact Statement for the Conrad-Shelby Transmission Line Project. These comments have previously been sent to the Area Manager of the Western Area Power Administration as noted on the attached correspondence.

Yours Truly,

Richard A. Howell

Richard A. Howell, Manager
Special Projects
Transportation Division

Enclosure: 1

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publications & graphics

Rec'd: 1-18-74

DEPARTMENT OF COMMERCE

TED SCHWINDEN, GOVERNOR

STATE OF MONTANA

1424 9TH AVENUE

(406) 444-3494

HELENA, MONTANA 59620

November 7, 1986

Area Manager
Western Area Power Administration
Attn: B2000
P.O.Box EGY
Billings, Montana 59101

Subject: Conrad-Shelby Transmission Line Project Montana DEIS

Dear Mr. Davies:

The Transportation Division of the Montana Department of Commerce conducted a review of the subject project DEIS. Our comments resulting from this review are presented as follows:

1. The crossings proposed in the preferred alternative would appear to accommodate rail operations if they are built to accepted standards.

2. Problems with shortwave radio reception may need mitigation.

With respect to these concerns it is imperative that sufficient height and width clearances be maintained.

The rail line in question between Conrad and Shelby is an active Burlington Northern mainline projected to grow in volume use. Abandonment is not considered likely in the near future.

Thank you for this opportunity to comment.

Yours Truly,

Richard A. Howell

Richard A. Howell, Manager
Special Projects
Transportation Division

## PART III

## FUTURE STATE ACTION ON THE PROPOSED PROJECT

This addendum, adopting Western's draft EIS as the state's draft EIS, is being circulated for public comment. Comments will be accepted for a period of 30 days from the date of mailing this addendum. DNRC does not plan to hold public meetings on this addendum unless it receives a valid request to do so within 20 days from the date of issuance of this addendum. DNRC will respond to any substantive comments received on this addendum.

Western plans to issue its final EIS in March, 1987. Shortly after issue of the federal EIS, DNRC will notify the public as to whether it will adopt the federal EIS as is. If additional information is needed to meet state requirements, DNRC will provide this to the public at the same time.

Subsequent to the EIS process, DNRC will issue a report to the Board addressing any concerns that remain unresolved and will comment as to whether Western's project would comply with state standards. Persons affected by the proposed project will receive a copy of the Board Report and be given an opportunity to comment on the report. Based on the present schedule, DNRC would issue a report to the Board in April. The Board would act on this project at a meeting to be held in early May, 1987. Board action at this time would be necessary to maintain the present schedule which indicates Western will issue its Federal Record of Decision in late May or early June, 1987.

Throughout the process leading to the Board's decision, affected persons will receive copies of any information DNRC sends to the Board and will be notified by DNRC of any future meetings on this project. Any questions concerning the process to be followed and involvement in that process can be directed to the Facility Siting Bureau at (406) 444-6812 or write to Kevin Hart, Project Coordinator, Energy Division, DNRC, 1520 East Sixth Avenue, Helena, MT 59620-2301.

DNRC

MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION

400 copies of this public document were published at an estimated cost of $2.25 per copy, for a total cost of $900.00 which includes $700.00 for printing and $200.00 for distribution.